

Winter Track Counts 1977-2012

By Brian Dhuey

Abstract

Weather conditions for winter track count surveys were fair to poor during the winter of 2011-12, with above average temperature and infrequent snow during the early period of the survey and then only moderate snow in January may have hindered surveyors in northern parts of the state. Trained surveyors have conducted track counts in the northern one-third of Wisconsin since the winter of 1977-78. Wildlife managers and researchers document the tracks of bobcat, coyote, fox, fisher, otter, wolf, weasel, American marten, and snowshoe hares. The number of tracks per transect decreased for bobcat, fisher, American marten, gray wolf, snowshoe hare and weasel. The number of tracks per transect increased for coyote, fox, and otter in 2011-12.

Methods

Survey transects were set up in 1977 in a block of counties covering the northern one-third of the state. The southern boundary of this block is formed by and includes Burnett, Washburn, Rusk, Taylor, Lincoln, Langlade, and Oconto counties. A group of counties comprising the central forest were added to the survey in 1998. Two geographic areas were chosen in each county, being at least 10 miles apart and 10 miles long, having good habitat of mixed aspen, alder, and conifers. Generally, large areas of unbroken pine and hardwoods were avoided. Roads that were least likely to be plowed following a storm and with minimal traffic were chosen for transects.

Track count surveys are run once a year on each transect during the early snow period (November - December), before roads become impassable and furbearer movement is restricted (snow depth up to 10-12 inches). Track counts are made on the first day after the conclusion (ending before 6:00 p.m.) of a snowfall, allowing one night for track registry.

Following a snowfall, a driver and qualified observer drive along a selected transect at 8-10 miles per hour looking for tracks in front of and alongside of the vehicle. Observers record the number of bobcat, coyote, fox, otter, fisher, and American marten tracks seen along each one-half mile transect section. If it is obvious that an animal has run along the road, its tracks are only counted once. Snowshoe hare tracks are not counted but are recorded as present or absent in the first one-tenth mile segment of each one-half mile transect section. Data are collected by the Northern Wildlife Research Unit, entered into the DNR production server, and summarized using the Statistical Analysis System (SAS).

Results

During the winter of 2011-12, 28 transects (24 in the north and 4 in the south) were run. This brings the total number of transects surveyed since 1977 to 1,061. Trends in percent presence (number of transects in which tracks of a species occurred) and the number of tracks per transect are shown in Table 1 and Figure 1.

Data for the snowshoe hare and weasel reflects the number of one-half mile transect sections containing hare and/or weasel tracks (Table 1, Figure 1). Data on American martens have been formally collected since the winter of 1989-90. Wolves were added in 1998-99 and weasels in 2003-04.

Snow conditions for the survey were below normal in December and normal to below in January in most areas of the state. Temperatures were normal to above during this same time period. Snow conditions in the central part of the state were even less favorable and made it difficult to meet survey condition's to run routes. Twenty-four transects were run in the northern region of the state in 2011-12. The southern region had 4 routes run in the winter of 2011-12.

Ten track count transects were added to the southern zone (Figure 2) in the winter of 1998-99. These transects were added in an attempt to monitor our expanding furbearer population. Snow conditions needed to run transects are more difficult to attain in this part of the state. Any results from this portion of the state should be viewed cautiously.

Table 1. *Northern Region, number of tracks observed per transect 1977-2012. The number of transects run in a year is in parenthesis.*

Year	Bobcat	Coyote	Fisher	Fox	American Marten	Otter	Gray Wolf	Snowshoe Hares	Weasel*
1977-78 (28)	0.21	5.88	1	0.7	--	0.23	--	9.52	--
1978-79 (32)	0.16	3.61	0.59	0.34	--	0.56	--	7.5	--
1979-80 (35)	0.49	6.49	1.14	0.37	--	0.27	--	7.46	--
1980-81 (34)	0.5	7.38	1.43	1.1	--	0.19	--	6.29	--
1981-82 (24)	0.21	5.29	1.21	0.81	--	0.33	--	3.5	--
1982-83 (25)	0.32	5.66	1.44	1.1	--	0.26	--	1.9	--
1983-84 (20)	0.1	3.05	1.67	0.45	--	0.6	--	0.55	--
1984-85 (33)	0.35	5.88	2.09	0.83	--	0.36	--	1.29	--
1985-86 (21)	0.1	0.76	1.57	0.05	--	0.21	--	2.1	--
1986-87 (34)	0.41	4	1.75	0.84	--	0.24	--	1.88	--
1987-88 (29)	0.36	7.31	2.31	1.1	--	0.74	--	3.17	--
1988-89 (30)	0.25	6.35	2.13	1.9	--	0.5	--	3.83	--
1989-90 (36)	0.42	7.39	2.47	2.64	0.01	0.49	--	5.78	--
1990-91 (34)	0.19	4.71	2.6	1.6	0.06	0.24	--	4.06	--
1991-92 (29)	0.1	3.61	3.63	1.76	0.24	0.55	--	4.83	--
1992-93 (31)	0.26	4.09	4.87	2.23	0.13	0.4	--	3.88	--
1993-94 (35)	0.24	5.97	6.61	2.16	0.26	0.29	--	3.79	--
1994-95 (32)	0.28	4.13	6.3	2.09	0	0.56	--	3.64	--
1995-96 (32)	0.25	2.06	3.86	1.73	0.13	0.36	--	3.48	--
1996-97 (28)	0.43	2.09	5.27	1.71	0.11	0.48	--	3.2	--
1997-98 (27)	0.43	2.48	2.67	1.65	0	0.35	--	2.81	--
1998-99 (22)	0.32	4.5	5.86	2.41	0.14	0.32	0.55	6.73	--
1999-2000 (37)	1.05	2.92	4.45	2.68	0.08	0.59	0.56	4.03	--
2000-01 (26)	0.65	2.27	4.58	2.12	0.12	0.38	0.85	4.08	--
2001-02 (21)	0.95	4.38	6	5.24	0.05	0.71	1.6	5.49	--
2002-03 (27)	0.78	6.41	5.19	3.67	0.41	0.3	1.11	1.85	--
2003-04 (28)	0.82	3.36	4.46	1.18	0.29	0.32	0.71	3.68	2.5
2004-05 (34)	1.47	4.79	6.12	3.15	0.24	0.44	2.26	4.18	2.62
2005-06 (35)	0.63	6.66	6.09	3.63	0.06	0.8	1.94	3.63	1.8
2006-07 (26)	1.15	6.96	5.65	6	0.08	0.15	1.96	4.38	1.81
2007-08 (22)	0.73	5.55	6.41	7.91	0	0.41	1.95	3.5	2.32
2008-09 (20)	1.08	5.28	2.5	2.7	0	0.3	1.1	2.65	1.28
2009-10 (29)	1.12	5.52	3.16	4.21	0.21	0.24	1.47	2.5	1.72
2010-11 (25)	0.72	5.42	1.96	1.72	0.12	0.16	1.66	1.64	2.0
20011-12 (24)	0.50	6.71	1.88	3.1	0	0.54	1.58	0.42	1.38

* Snowshoe hare and Weasel tracks were not counted; this column represents the number of one-half mile transect sections containing snowshoe hare tracks.

Table 2. *Southern Region, number of tracks observed per transect 1998-2012. The number of transects run in a year is in parenthesis.*

Year ¹	Bobcat	Coyote	Fisher	Fox	American Marten	Otter	Wolf	Snowshoe Hares [*]	Weasel [*]
1998-99 (3)	0	2.67	0	0.33	0	0	0	0	--
1999-2000 (4)	0	4.25	1.5	3	0	0.5	1	1.75	--
2000-01 (3)	0	2.67	3	0.33	0	0.67	0.33	3.67	--
2001-02 (0)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--
2002-03 (0)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--
2003-04 (6)	0	5.33	3.33	2.67	0	0.33	0.67	1.67	0.67
2004-05 (5)	0	6.8	5.6	2.6	0	0	0.4	1.2	1.2
2005-06 (6)	0.33	5.17	8.67	2.17	0	0.83	1.17	3.67	1.5
2006-07 (5)	0.2	9.8	6	3	0	0.4	0.2	4	1
2007-08 (7)	0.29	6.71	3.57	1	0	1	0.14	1	1
2008-09 (6)	0.58	6.08	4.75	1.58	0	0	1.17	1.25	1
2009-10 (3)	0	9.33	0.33	0.67	0	1	0.67	0.33	0.67
2010-11 (4)	0.25	7.25	3.25	2.0	0	0.25	1.0	0.25	1.75
2011-12 (4)	0	14.0	2.75	0.75	0	0.75	0.25	1.0	2.25

^{*} Snowshoe hare and Weasel tracks were not counted; this column represents the number of one-half mile transect sections containing snowshoe hare tracks.

¹ Snow conditions in the southern region make it difficult to run track transects. Ten transects were established in the southern region in 1998-99 but not all have been able to be run.

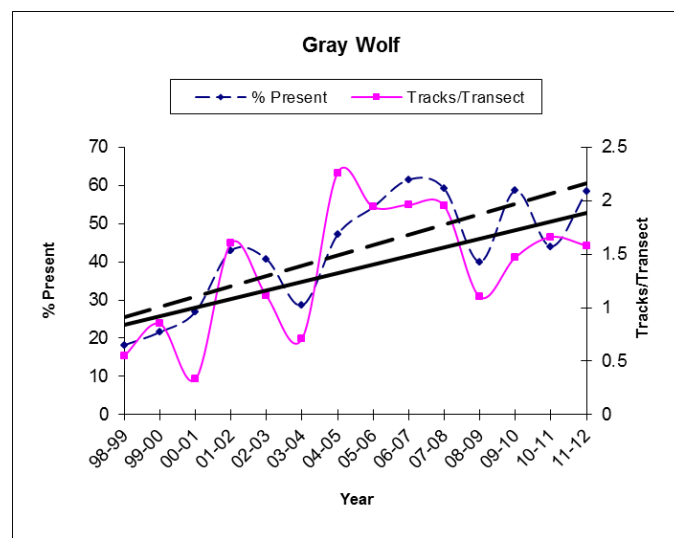
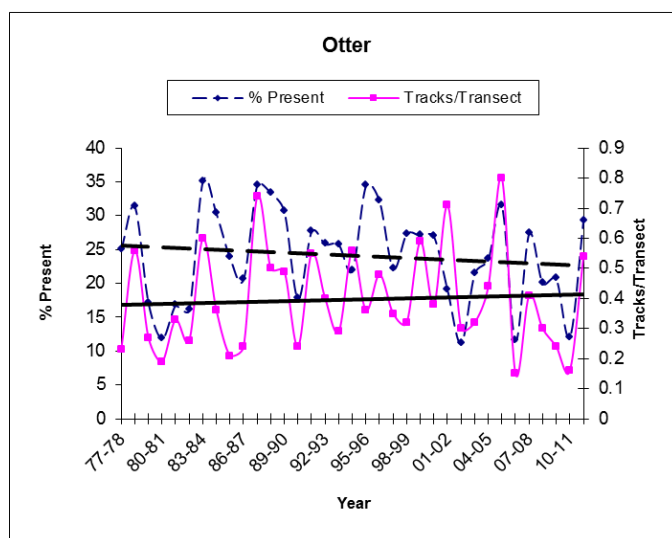
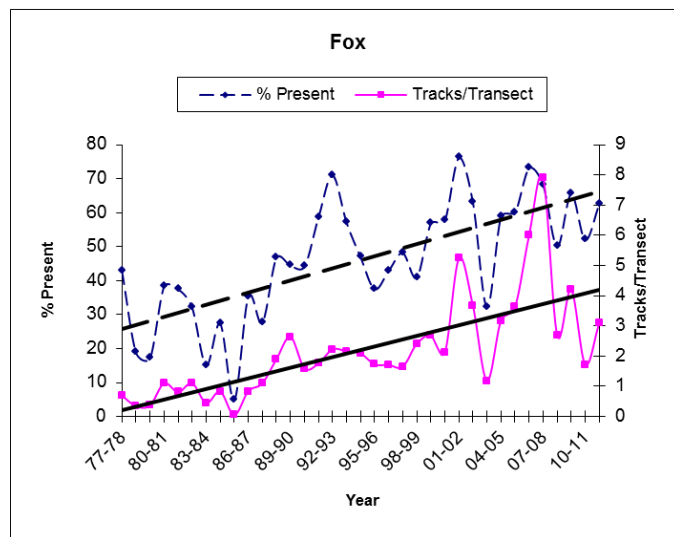
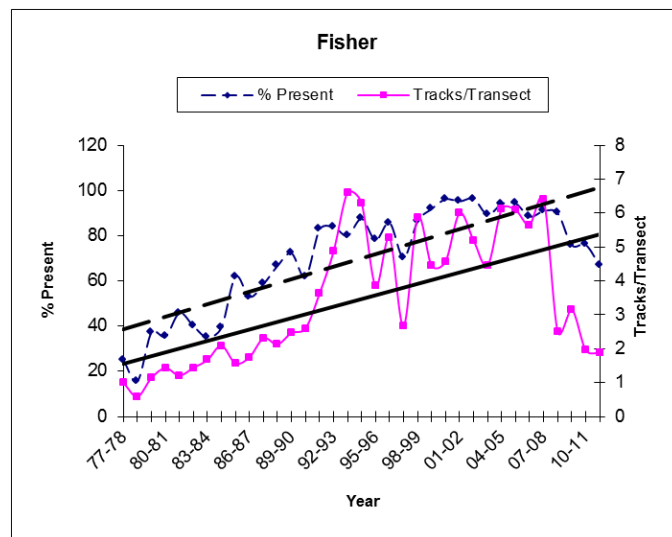
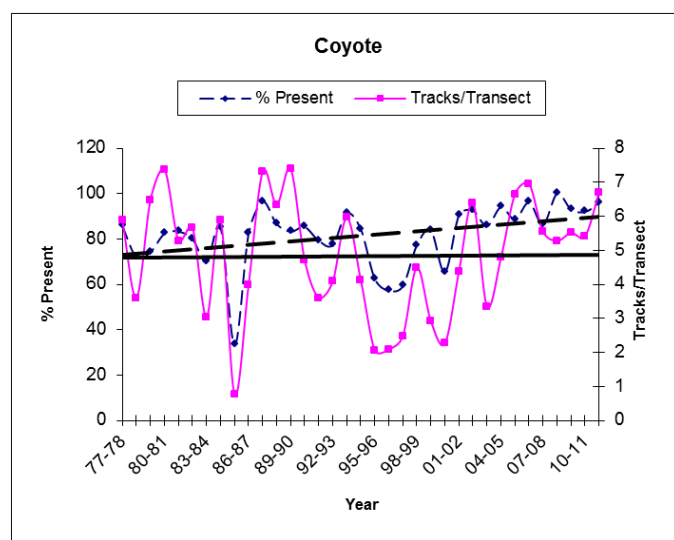
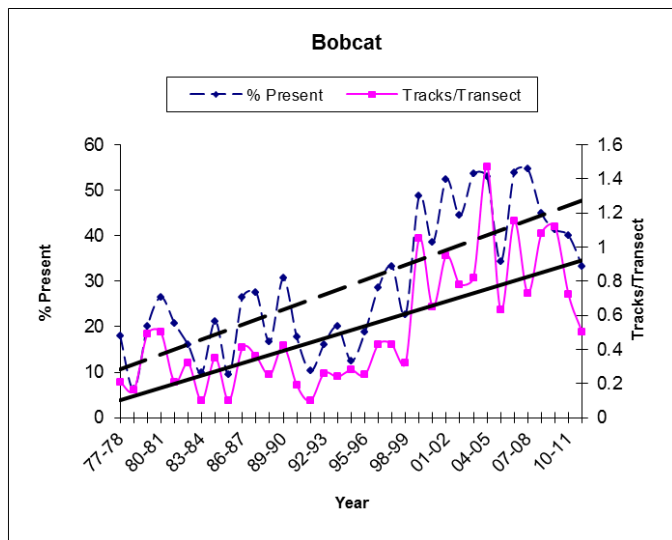


Figure 1. Winter track count trends for each species surveyed in the Northern Region 1977-2012.

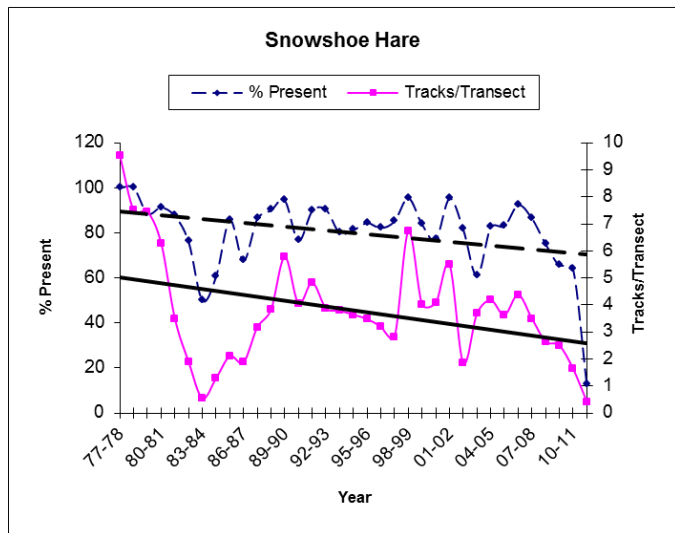
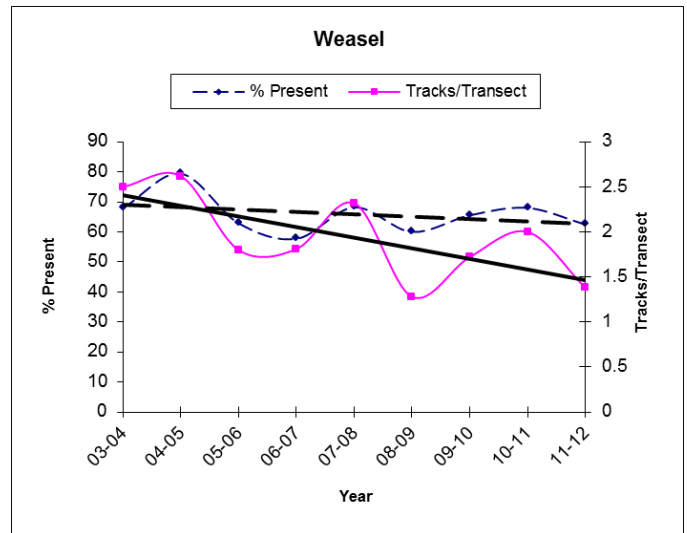
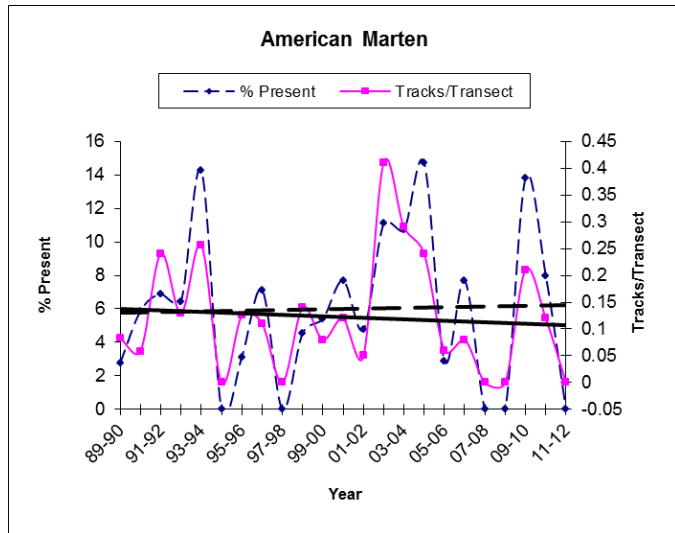


Figure 1. Continued.

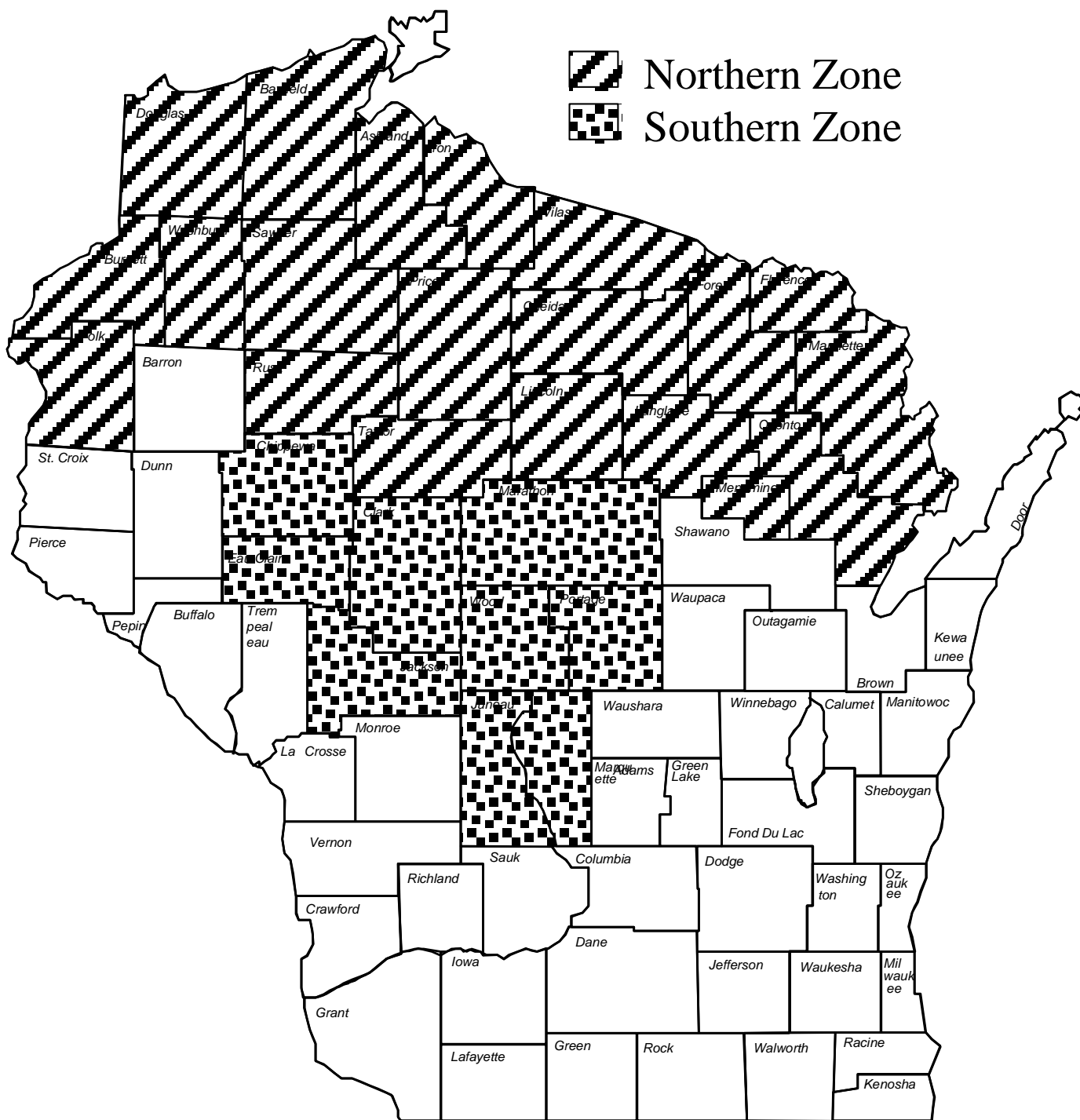


Figure 2. Shaded counties contain track count surveys.